CLAIMS

1. A polypeptide selected from the following (a) or (b):

(a) a polypeptide having the amino acid sequence shown in SEQ ID NO: 9; or

(b) a polypeptide selected from the group consisting of the following (i) to (iv):

(i) a polypeptide which is a conservative substitution variant or a naturally occurring allelic variant of the polypeptide having the amino acid sequence shown in SEQ ID NO: 9;

(ii) a polypeptide having an amino acid sequence having a sequence homology of 75% or more, as compared to a full length amino acid sequence shown in SEQ ID NO: 9;

(iii) a polypeptide having an amino acid sequence in which one or more amino acids in the amino acid sequence shown in SEQ ID NO: 9 are deleted, substituted or added; and

(iv) a polypeptide encoded by a nucleic acid capable of hybridizing with a nucleic acid having the nucleotide sequence shown in SEQ ID NO: 8 under stringent conditions, or by a complement thereof,

wherein the polypeptide possesses a phospholipase A_2 activity.

2. The polypeptide according to claim 1, wherein the polypeptide is a polypeptide of human.

3. The polypeptide according to claim 1, wherein the polypeptide is a

recombinant polypeptide.

4. A nucleic acid encoding the polypeptide of claim 1.

5. The nucleic acid according to claim 4, wherein the encoded polypeptide is a polypeptide of human.

6. A nucleic acid selected from the following (a) or (b):

(a) a nucleic acid having the nucleotide sequence shown in SEQ ID NO: 8; or

(b) a nucleic acid selected from the following (I) or (II):

(I) a nucleic acid capable of hybridizing with a nucleic acid having the nucleotide sequence shown in SEQ ID NO: 8 under stringent conditions, or a complement thereof; or

(II) a nucleic acid having a nucleotide sequence having a sequence homology of 70% or more, as compared to a full length translation region sequence in the nucleotide sequence shown in SEQ ID NO: 8,

wherein the nucleic acid encodes a polypeptide possessing a phospholipase A_2 activity.

7. The nucleic acid according to claim 6, wherein the nucleic acid is a nucleic acid of human.

8. A nucleic acid selected from the following (I) or (II):

(I) a nucleic acid capable of hybridizing with a nucleic acid having the

nucleotide sequence shown in SEQ ID NO: 8 under stringent conditions, or a complement thereof; or

(II) a nucleic acid having a nucleotide sequence having a sequence homology of 70% or more, as compared to a full length translation region sequence in the nucleotide sequence shown in SEQ ID NO: 8,

wherein the nucleic acid is usable for the following (A) or (B):

(A) detection of expression or presence of a gene comprising the nucleic acid of any one of claims 4 to 7; or

(B) change of expression of a gene comprising the nucleic acid of any one of claims 4 to 7.

9. The nucleic acid according to any one of claims 4 to 8, wherein the nucleic acid is an isolated nucleic acid.

10. A recombinant vector comprising the nucleic acid of any one of claims 4 to 8.

11. The recombinant vector according to claim 10, wherein the recombinant vector is an expression vector.

12. A host cell into which the recombinant vector of claim 11 is introduced.

13. A method for producing a recombinant polypeptide, comprising the steps of:

1) culturing a host cell into which the recombinant vector of claim 11 is

introduced, to give a culture; and

2) collecting a polypeptide of a phospholipase A_2 encoded on the recombinant vector from the culture obtained in the above step 1).

14. An antibody capable of recognizing the polypeptide of any one of claims 1 to 3.

15. A method for characterizing, identifying or screening a therapeutic agent for an inflammatory dermal disease, comprising contacting a phospholipase A_2 comprising the polypeptide of any one of claims 1 to 3 with a test substance; and assaying an action of the test substance on the phospholipase A_2, to determine inhibition of the phospholipase A_2.

16. The method according to claim 15, wherein the action of the test substance is assayed by carrying out an enzymatic reaction in a reaction system comprising the phospholipase A_2, a substrate for the phospholipase A_2 and the test substance, and assaying an inhibitory action for the enzymatic activity of the phospholipase A_2.

17. The method according to claim 16, wherein the substrate is a glycerophospholipid, and the enzymatic activity is an activity for hydrolyzing an ester bond at 2-position of the glycerophospholipid.

18. A method for inhibiting a phospholipase A_2 in human, comprising administering a test substance to a human individual who is a patient with an

inflammatory dermal disease, wherein the test substance is determined to be a substance capable of inhibiting the phospholipase A_2, by assaying an action of the test substance on the phospholipase A_2 comprising the polypeptide of any one of claims 1 to 3.

19. A method of selling a test substance or a composition containing the test substance as a therapeutic agent for an inflammatory dermal disease, wherein the test substance is determined to be a substance capable of inhibiting a phospholipase A_2, by assaying an action of the test substance on the phospholipase A_2 comprising the polypeptide of any one of claims 1 to 3.

20. A method for manufacturing a pharmaceutical composition for the treatment of an inflammatory dermal disease, comprising mixing a test substance with a carrier, wherein the test substance is determined to be a substance capable of inhibiting the phospholipase A_2 by assaying an action of the test substance on the phospholipase A_2 comprising the polypeptide of any one of claims 1 to 3.

21. A method of use of a phospholipase A_2 comprising the polypeptide of any one of claims 1 to 3, for the manufacture of a therapeutic agent for an inflammatory dermal disease.

22. The method according to any one of claims 15 to 21, wherein the inflammatory dermal disease is a chronic intractable dermal disease.

23. The method according to any one of claims 15 to 21, wherein the

inflammatory dermal disease is psoriasis.

24. The method according to any one of claims 15 to 21, wherein the test substance is a compound which has not been known as an inhibitor for the phospholipase A_2.

25. A pharmaceutical composition for the treatment of an inflammatory dermal disease, comprising a compound capable of inhibiting a phospholipase A_2 comprising the polypeptide of any one of claims 1 to 3 as an active ingredient.

26. A method for treating an inflammatory dermal disease, comprising administering to a patient an effective amount of a compound capable of inhibiting a phospholipase A_2 comprising the polypeptide of any one of claims 1 to 3.

27. An examination method for psoriasis, characterized by assaying an expression level of a gene encoding the polypeptide of any one of claims 1 to 3 for a biological sample collected from a human or non-human animal individual.

28. The examination method according to claim 27, wherein the expression level is assayed using a nucleic acid capable of hybridizing with a nucleic acid having the nucleotide sequence shown in SEQ ID NO: 8 under stringent conditions, or a complement thereof as a probe or primer.

29. The examination method according to claim 28, wherein the probe or

primer is a nucleic acid having the nucleotide sequence shown in SEQ ID NO: 4 or a complement thereof.

30. The examination method according to claim 27, wherein the expression level is assayed using an antibody capable of recognizing the polypeptide of any one of claims 1 to 3.